IN THE SPECIFICATION:

Please amend the second paragraph in page 2 through the second paragraph in page 3 as follows:

FIG. 2a through FIG. 2c are perspective views representing each step of the fabrication process of the conventional planar light waveguide circuit with a vertical taper structure. Referring to FIG. 2a through FIG. 2c, a planar light waveguide circuit 220 includes an arrayed waveguide 222, a slab 221, and a branch for connecting the slab 221 and the arrayed waveguide 222. The branch has a vertical taper structure 223 that is formed using a shadow mask 250. That is, the branch connecting the slab 221 and the arrayed waveguide 222 in the planar light waveguide circuit 220 includes a vertical taper structure 223 with a decreasing tilt in a fan-shape along the longitudinal direction of the arrayed waveguide 222.

As FIGs. 2a through 2c manifest, the method for fabricating a planar light waveguide circuit 220 with the vertical taper structure 223 using a shadow mask 250 involves layering a hard layer ~~211~~210, forming a mask ~~pattern~~ pattern 211, 212 on the hard layer ~~211~~210, installing a shadow mask 250, and dry-etching the core layer 220.

Referring to FIG. 2a, the mask pattern is formed by layering the hard layer 21~~1~~0 on the core layer 220, and then forming a mask pattern to be shaped on the hard layer ~~211~~210. Usually, a metallic or inorganic thin film is used for the hard layer 211. Underneath the core layer 220 is a clad layer 230.

Referring to FIGs. 2b and 2d, the shadow mask is installed by first placing a ~~dummy~~ shadow mask 250 with a designated height 252 at the branch between the slab 221

and the arrayed waveguide 222 of the planer light waveguide circuit, and then installing the shadow mask 250 on the upper portion of the dummy mask 251. This procedure determines the tilt (or slope) of the vertical taper structure 223. That is, the tilt, length, or shape of the vertical taper is adjusted by adjusting the height 252 of the dummy mask 251 and the size 253 of the shadow mask 250.

Please amend the third paragraph in page 7 through the first paragraph in page 8 as follows:

Referring to FIGS. 4a through 4c, ~~T~~the step of layering a hard layer (S300) involves depositing a hard layer 420 on the core layer 402 of the substrate 401, thus allowing the hard layer 420 to play an etch mask role during the subsequent etching step. As for the hard layer 420, a metallic or inorganic thin film can be used.

~~Referring to FIGs. 4a through 4c, t~~The mask pattern is formed (S310) by layering a photoresist layer 410 on the upper surface of the hard layer 420 and forming an optical-circuit pattern, including an arrayed waveguide 412 and an optical circuit 411 on the photoresist layer 410 through a lithography process (exposing and developing). The photoresist layer 410 on which the optical pattern is formed undergoes the etching process, thereby forming an optical-circuit pattern on the hard layer 420. Later, a strip process is carried out to remove any remaining photoresist layer. In this manner, the mask pattern is formed successfully on the hard layer 420.

In the meantime, FIG. 4d shows the layering of a photoresist layer 430 on the mask pattern of the hard layer 420 (S330). The photoresist layer 430 is needed to embody the

vertical taper structure at the branch section between the optical circuit 422 and the arrayed waveguide 421. Note that the thickness of the photoresist layer 430 is determined in consideration of the length and the tilt of the vertical taper and the etch rate of the core 402.

IN THE DRAWINGS:

Please replace Figures 1-5with the substitute drawings enclosed herein.